BCTS
BC Timber Sales
Prince George

BCTS GIS Data Standards

BC Timber Sales
Prince George Timber Sales Office
Prince George Business Area

2005 V1.1

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Note: Thank you to Canfor for providing some of the data standards in this document.

OVERVIEW

The goal of the GIS department at BCTS is to have all supplied digital data arrive in a condition that maximizes it's ability to be incorporated into our GIS System and GENUS, in the most efficient and accurate means possible. To meet this goal, all contractors, consultants and data suppliers must adhere to the following criteria for digital data standards.

ArcInfo is the software being utilized within the BCTS GIS department.

This document will be revised annually but may be updated periodically during the year as well. If there are any changes or updates, release notes will be sent out at that time.

If you have any questions about any part of the following standards, contact the GIS representative listed below.

BCTS GIS CONTACTS

The following is a list of contact names from BCTS GIS department and what they are responsible for:

NAME	RESPONSIBILITY	PHONE NUMBER	E-MAIL ADDRESS
Birthe Miller	Prince George	250-614-7434	Birthe.Miller@gems6.gov.bc.ca
Birthe Miller	Mackenzie	250-614-7434	Birthe.Miller@gems6.gov.bc.ca
Birthe Miller	Headwaters	250-614-7434	Birthe.Miller@gems6.gov.bc.ca

DIGITAL FILE AND DATA SPECIFICATIONS

All of the digital spatial data must be sent in a .zip file with only one block (or area if the case may be) per .zip file. However, there can be multiple spatial data files associated with each block in that one .zip file. If a cutting permit has five blocks, there should be five .zip files and each .zip file will have one or more spatial data files in it. If data is being sent for a single block, all data associated with the block should all be sent as one complete data set, unless requested by the contract administrator to do otherwise.

The following section describes the file naming conventions that must be followed when submitting digital data files.

FILE NAMING CONVENTIONS

The following guidelines for naming data files were developed in order to better track and manage the data that is coming in to BCTS.

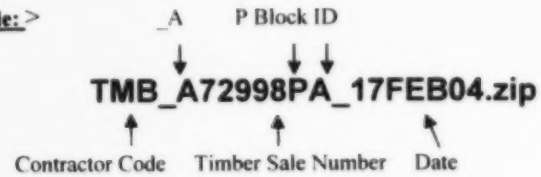
ZIP FILES

Zip files must be named following the rules below:

<Contractor Code>_A<TimberSale>P<Block ID>_<Date>.zip

1. **Contractor Code:** This is required to track which contractor the data came from, especially in cases where multiple contractors have submitted data for the same blocks. See appendix A for a list of contractor codes.
2. **Timber Sale:** This should be the timber sale number preceded by an "A" indicating "Timber Sale Area". If the timber sale code does not apply to the data that is being sent, this can be left blank.
3. **Block ID:** This should be the common name of the block, also known as the Genus Block ID number (which is usually the permit and block number together), preceded by a "P" indicating "cutting permit". If the block ID code does not apply to the data that is being sent, insert an abbreviated description of the data instead.
4. **Date:** This is the date that the data was sent to BCTS. The date format should be first two digits being the day, followed by the first three letters of the month, followed by the last two digits of the year.

Example: >



IFS_WLKP12_17FEB04.zip

SPATIAL DATA FILES

Spatial data files must be in ArcInfo Interchange file format or Shapefile format.

Spatial data files must be named following the rules below:

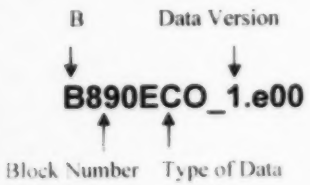
B<Block Number><Type of Data>_<Data Version>.e00

or for shapefiles

B<Block Number><Type of Data>_<Data Version>.shp

1. **Block Number:** This is the block number preceded by a "B" indicating "block". If the data being sent does not have a block name, insert area name or an abbreviated description in place of the block number.
2. **Type of Data:** This is a code indicating what type of data it is. See appendix B for a list of data codes.
3. **Data Version:** This is a code indicating if the data is original or amended (e.g. 1 for the original data and 2, 3, etc. for subsequent amended data). If the data is version 2 or higher, the data sent should only include that data which is different from the old data.

Example:



File Method of Delivery

All digital data must be copied onto CD or DVD with case and disc fully labelled as per labelling requirements below:

Labelling Requirements:

- contract number
- contract name
- date CD was produced
- version number
- list of files, i.e., directory structure on CD (as an insert)
- working area/unit
- contract coordinator

If requested digital data may be uploaded to the BCTS FTP site www.for.gov.bc.ca/ftp/TPG/external/incoming and e-mail should be sent to the contract administrator and GIS contact informing them that the data has been placed there. The e-mail should also include a brief description of the data, which folder the data has been placed in, what the file name is and the timber sale, permit and block number of the data you are sending as well as any other pertinent information. This method of delivery is preferred to receiving the data via e-mail because it reduces duplicate data getting sent to each contact on the e-mail list as well as reducing the volume of data in everyone's e-mail applications.
If you need instructions on gaining access to BCTS's FTP site, please contact the BCTS's GIS department.

- ***Please note*** - all digital data should be submitted on media that is free of computer viruses. Data that has been submitted and has been found to contain computer viruses will not be accepted, and a new copy of the data shall be submitted to BCTS.

Spatial Data File Formats

ArcInfo and ArcGIS are the software packages utilized within the BCTS GIS department, therefore, ArcInfo Interchange (**.e00**) and Shapefile (**.shp**), is the format that we will accept data in. No compression should be used when exporting Interchange files. The table structures for the different types of data are described in detail under the "Data Standards" section. All base mapping from BCTS shall be supplied in ArcInfo Interchange or Shapefile format as well.

Digital Data Specifications

All digital data that gets sent to BCTS, must adhere to the following specifications:
Precision: Double
Tolerances: All set to 0.01
Datum: NAD83_Canada
Projection: All data must be delivered in ALBERS. The Albers parameters to use are those of the BC Ministry of Sustainable Resource Management standard:

Projection:	Albers Conic Equal Area
Central Meridian:	-126.0 degrees
First standard parallel:	50.0 degrees
Second standard parallel:	58.5 degrees
Latitude of reference:	45.0 degrees
False Easting:	1000000 meters
False Northing:	0 meters

Any datum shift must be performed using the Canadian National Transformation (CNT) matrix.

All linework must be within 0.5 mm of source linework. (i.e., 10 m on 1:20,000 scale maps; 25 m on 1:50,000 maps; 100 m on 1:250,000 scale maps, etc.)

All digitized mapping must be registered to within .004m relative mean square of the corners of the maps being digitized.

Polygon Covers:

1. Coverages must be topologically clean. Each polygon must contain exactly one polygon tag. All polygon boundary lines must be broken where they intersect, and all line endpoints must meet exactly.
2. All polygon tags must be unique within the project.

Line Covers:

1. Coverages must be topologically clean. All lines must be broken where they cross, and line endpoints must meet exactly at intersections.
2. Lines representing continuous features (eg. streams, roads) must be continuous within the coverage (i.e., no gaps).

Point Covers:

Point covers are may be delivered either as ArcInfo Interchange or Shapefiles, or in an alternate format, as directed by the contract monitor.

1. All point tags must be unique within the project.

PREREQUISITE BASE DATA

Any map data provided by contractors and/or consultants, shall tie to BCTS's base map data. To ensure this, BCTS will provide to the contractor and/or consultant a digital file in ArcInfo Interchange (.e00) format, containing pertinent data for the area of interest.

This would include:

- TRIM II data.
- Forest Cover data
- BCTS block or road data.
- Orthophotos or Satellite imagery.

If you need base data, you can contact the BCTS GIS department representatives listed in the contacts section at the beginning of this manual.

PLOT FILES

If a map was produced from the data, a plot file should accompany the digital data and must be in PDF format.

PDF files must be named the same way that spatial data files are named. See the "File Naming Conventions" section above for the correct way to name plot files. For example, a plot file of an ecological units map for block 890 would be named B890ECO_1.pdf.

REMOTE ACCESS DATA LOADING

If you are going to be loading data directly into BCTS's system through remote access, we still require that a copy of the original, field collected, GPS information be submitted to us for archive purposes.
The data standard for this type of digital data is currently being reviewed.

GIS DATA STANDARDS

Depending on what type of data you are sending, a corresponding **Data Code** must be used in the file names of the spatial data as outlined in the "File Naming Conventions" section (e.g. B890**ECO**_1.e00). For a complete list of these data codes, descriptions, feature classes and annotation subclasses, see appendix B at the end of this document.

This document covers the majority of digital data that is submitted to BCTS which is data relating to cutting permits and blocks. However, if the data you are submitting can not be described by either a timber sale, permit or block number, some of the naming conventions may not apply. In these cases, the file name should include an abbreviated description of the data in place of a block name. If there are any types of data that are not included with the list in appendix B, the data code can be miscellaneous line (ARC), polygon (PLY) or point (PNT) data.

The following is a list of guidelines that should be followed for all digital data:

- Contractors have the option of sending the standard unit data, ecological unit data, special management zone data and timber type data together as one "SP" data file, or separately as individual "SU", "ECO", "SMZ" or "TTY" data files.
- A PDF file should be sent if maps were produced from any of the data.
- Text or characters in attribute fields, must be entered as upper case unless otherwise specified.
- Polygon data must be clean and free from sliver polygons, dangles and undershoots and all arc data must be clean with no gaps in the data where intersections should occur.
- No leading spaces in attribute fields.
- Don't send empty coverages.
- No spaces in filenames.
- ArcInfo Interchange (.e00) filenames may not exceed 13 characters.

The following sections outline the table structure, required fields and necessary annotation for the different data types that may be submitted.

GPS DATA STANDARDS (GPS)

This coverage will need to contain an **ARC** feature class.

• GPS Data – The Arc Attribute Table (AAT)

This attribute table will contain coding for any block outline segments that have been GPS traversed. A PDF file should be sent with the GPS data if a map was created of the GPS traverse. The table structure of the AAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
***TIMBER_SALE**	8	8	C	-		-
***CP**	5	5	C	-		-
***BLOCK**	15	15	C	-		-
***FEATURE**	10	10	C	-		-
***METHOD**	25	25	C	-		-
***ORIGINATOR**	15	15	C	-		-
***CAPT_DATE**	8	10	D	-		-

These fields **must be filled in.*

***TIMBER_SALE**: Timber Sale number of the block (e.g. A73570, WLK12, etc.).
***CP:** Cutting permit of the block (e.g. A, B, etc.).
***BLOCK:** Block number (e.g. 1, 2, 3, etc.).

***FEATURE:** Describes what kind of boundary it is.

Acceptable values:

- BLK_BDY = External block boundary.
- WTP_BDY = Reserve boundary.

***METHOD:** Describes how the data was captured.

Acceptable values:

- GPS = GPS traversed.
- DIGITIZED = Digitized from hardcopy map.

***ORIGINATOR:** Name of the company who produced the coverage.

***CAPT_DATE:** Date on which the GPS data was captured. The format is mm/dd/yyyy (e.g. 05/18/2004).

SILVICULTURE PRESCRIPTION DATA STANDARDS (SP)

This coverage will need to contain a **POLYGON** feature class.

• SP Data – Polygon Attribute Table (PAT)

This attribute table will contain coding for polygons such as standard unit codes, ecological unit codes, harvest strategy designations and timber type codes. A PDF file should be sent with the SP data if a map was produced from the data. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TIMBER_SALE	8	8	C	-		-
*CP	5	5	C	-		-
*BLOCK	15	15	C	-		-
*SU_CODE	5	5	C	-		-
*ECO_CODE	5	5	C	-		-
STRATEGY	5	5	C	-		-
OPENING_NO	12	12	C	-		
TIMBER_TYPE	10	10	C	-		-

** These fields **must** be filled in.*

***** TIMBER_SALE**: Timber Sale number of the block (e.g. A73570, WLK12, etc.).

***CP:** Cutting permit of the block (e.g. A, B, etc.).

***BLOCK:** Block number (e.g. 1, 2, 3, etc.).

***SU_CODE:** This is a code used to identify the specific standard units within a block.

Acceptable values:

- 1, 2, 3, etc. = Productive standard units.
- Alp = Alpine
- LMZ = Lake Management Zone
- NC = Non-Commercial
- NCBr = Non-Commercial Brush
- NP = Non-Productive - (Miscellaneous)
- NPb = Non-Productive - Burn
- NPBr = Non-Productive – Brush
- NPs = Non-Productive - swamp
- NSR = Not Satisfactorily Restocked
- OR = Open Range
- Rc = Reserve - Cultivated - Cleared
- Rr = Reserve - Rock
- Rs = Reserve - swamp
- RRZ = Riparian Reserve Zone
- Ru = Reserve - Urban
- Rw = Reserve - Wild Hay Meadow
- W = WTP
- Z = Roads and Landings

- Zex = Roads and Landings – existing

***ECO_CODE:** This is a code used to identify the specific ecological units within a block. A number must be entered in this field starting at 1, with no leading zero and no necessary correlation between this number and the site series. Generally, the lowest numbered site series for the block (e.g. 03) would get an eco code of "1" and each site series after that would get numbered sequentially.

Acceptable values:

- a, b, c, etc. = Ecological unit codes.

STRATEGY: Code identifying polygons with special logging considerations.

Acceptable Values:

- MFZ = Machine Free Zone.
- RMZ = Riparian Management Zone.
- SMZ = Special Management Zone.
- LMZ = Lake Management Zone.

OPENING_NO: This is a code used to identify the opening number assigned by BCTS to the block at the time the SP is approved. (e.g. 093G089_0068)

TIMBER_TYPE: Code for identifying small non-commercial brush patches. If applicable, these patches of NcBr should have been identified at the time the cruise was done. Any patch of NcBr identified that is greater than 4 hectares, should be identified as a separate standard unit "NP".

Acceptable Values:

- NCBR = Small non-commercial brush patches less than 4 hectares in size.

STANDARD UNIT DATA STANDARDS (SU)

This coverage will need to contain a **POLYGON** feature class.

• SU Data – Polygon Attribute Table (PAT)

This attribute table will contain coding for polygons with standard unit codes. A PDF file should be sent with the SU data if a map was produced from the data. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TIMBER_SALE	8	8	C	-		-
*CP	5	5	C	-		-
*BLOCK	15	15	C	-		-
*SU_CODE	5	5	C	-		-

** These fields **must** be filled in.*

*** TIMBER_SALE**: Timber Sale number of the block (e.g. A73570, WLK12, etc.).

***CP:** Cutting permit of the block (e.g. A, B, etc.).

***BLOCK:** Block number (e.g. 1, 2, 3, etc.).

***SU_CODE:** This is a code used to identify the specific standard units within a block. Characters must be entered as upper case.

Acceptable values:

- 1, 2, 3, etc. = Productive standard units.
- Alp = Alpine
- LMZ = Lake Management Zone
- NC = Non-Commercial
- NCBr = Non-Commercial Brush
- NP = Non-Productive - (Miscellaneous)
- NPb = Non-Productive - Burn
- NPBr = Non-Productive – Brush
- NPs = Non-Productive - swamp
- NSR = Not Satisfactorily Restocked
- OR = Open Range
- Rc = Reserve - Cultivated - Cleared
- Rr = Reserve - Rock

- Rs = Reserve - swamp
- RRZ = Riparian Reserve Zone
- Ru = Reserve - Urban
- Rw = Reserve - Wild Hay Meadow
- W = WTP
- Z = Roads and Landings
- Zex = Roads and Landings - existing

** Contractors have the option of sending the standard unit data, ecological unit data, special management zone data and timber type data together as one "SP" data file, or separately as individual "SU", "ECO", "SMZ" or "TTY" data files.*

ECOLOGICAL UNIT DATA STANDARDS (ECO)

This coverage will need to contain a **POLYGON** feature class.

• ECO Data – Polygon Attribute Table (PAT)

This attribute table will contain coding for polygons with ecological unit codes. A PDF file should be sent with the ECO data if a map was produced from the data. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TIMBER_SALE	8	8	C	-		-
*CP	5	5	C	-		-
*BLOCK	15	15	C	-		-
*ECO_CODE	5	5	C	-		-

** These fields **must** be filled in.*

*** TIMBER_SALE**: Timber Sale number of the block (e.g. A73570, WLK12, etc.).
***CP:** Cutting permit of the block (e.g. A, B, etc.).
***BLOCK:** Block number (e.g. 1, 2, 3, etc.).
***ECO_CODE:** This is a code used to identify the specific ecological units within a block. A number must be entered in this field starting at 1, with no leading zero and no necessary correlation between this number and the site series. Generally, the lowest numbered site series for the block (e.g. 03) would get an eco code of "1" and each site series after that would be numbered sequentially (2, 3, etc.).

Acceptable values:

- a, b, c, etc. = Ecological unit codes.

SPECIAL MANAGEMENT ZONE DATA STANDARDS (SMZ)

This coverage will need to contain a **POLYGON** feature class.

• SMZ Data – Polygon Attribute Table (PAT)

This attribute table will contain coding for polygons with harvest strategy designations. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TIMBER_SALE	8	8	C	-		-
*CP	5	5	C	-		-
*BLOCK	15	15	C	-		-
*STRATEGY	5	5	C	-		-

** These fields **must** be filled in.*

***TIMBER_SALE**: Timber Sale number of the block (e.g. A73570, WLK12, etc.).
***CP:** Cutting permit of the block (e.g. A, B, etc.).
***BLOCK:** Block number (e.g. 001, 890, etc.).

*STRATEGY: Code identifying polygons with special logging considerations.

Acceptable Values:

- MFZ = Machine Free Zone.
- RMZ = Riparian Management Zone.
- SMZ = Special Management Zone.
- LMZ = Lake Management Zone.

BIODIVERSITY MANAGEMENT ZONE DATA STANDARDS (BMZ)

This coverage will need to contain a **POLYGON** feature class.

• BMZ Data – Polygon Attribute Table (PAT)

This attribute table does not require coding for polygons.

TIMBER TYPE DATA STANDARDS (TTY)

This coverage will need to contain a **POLYGON** feature class.

• TTY Data – Polygon Attribute Table (PAT)

This attribute table will contain coding for polygons that are designated as NCBR patches. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TIMBER_SALE	8	8	C	-		-
*CP	5	5	C	-		-
*BLOCK	15	15	C	-		-
*TIMBER_TYPE	10	10	C	-		-

** These fields **must** be filled in.*

*** TIMBER_SALE**: Timber Sale number of the block (e.g. A73570, WLK12, etc.).
***CP:** Cutting permit of the block (e.g. A, B, etc.).
***BLOCK:** Block number (e.g. 001, 890, etc.).
***TIMBER_TYPE:** Code for identifying small non-commercial brush patches. If applicable, these patches of NcBr should have been identified at the time the cruise was done. Any patch of NcBr identified that is greater than 4 hectares, should be identified as a separate standard unit "NP".

Acceptable Values:

- NCBR = Small non-commercial brush patches less than 4 hectares in size.

ROAD DATA STANDARDS (RDS)

This coverage will need to contain an **ARC** feature class.

• RDS Data – Arc Attribute Table (AAT)

This attribute table will contain coding for any road segments that have been GPS traversed. The table structure of the AAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*CLASS	10	10	C	-		-
*TYPE	4	4	C	-		-
*METHOD	25	25	C	-		-
*ORIGINATOR	15	15	C	-		-

** These fields **must** be filled in.*

*CLASS: This describes what kind of road it is.

Acceptable Values:

- ONE LANE = Most on-block roads.
- TWO LANE = Mainlines and Forest Service roads.

*TYPE: Describes the permanency of the road.

Acceptable Values:

- PERM = Permanent.
- TEMP = Temporary.

*METHOD: Describes how the data was captured.

Acceptable values:

- GPS = GPS traversed.
- DIGITIZED = Digitized from hardcopy map.
- ORTHO = Digitized from orthophoto.
- LASER = Laser traversed.

*ORIGINATOR: Name of the company who pro. .uced the coverage.

TRAIL DATA STANDARDS (TRL)

This coverage will need to contain **ARC** and **ANNOTATION** feature classes, with annotation subclass **ANNOTATION.TRAIL_NM**.

• TRL Data – Arc Attribute Table (AAT)

This attribute table will contain coding for any skid trails, bladed trails or heritage trails. The table structure of the AAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*CLASS	8	8	C	-		-
*TYPE	5	5	C	-		-
TRAIL_NAME	15	15	C	-		-
*METHOD	25	25	C	-		-
*ORIGINATOR	15	15	C	-		-

** These fields **must** be filled in.*

*CLASS: Describes what kind of trail it is.

Acceptable Values:

- SKID TRAIL
- BLADED TRAIL
- HERITAGE TRAIL

*TYPE: Describes the permanency of the trail.

Acceptable Values:

- PERM = Permanent.
- TEMP = Temporary.

TRAIL_NAME: Name of trail if known.

*METHOD: Describes how the data was captured.

Acceptable values:

- GPS = GPS traversed.
- DIGITIZED = Digitized from hardcopy map.
- ORTHO = Digitized from orthophoto.
- LASER = Laser traversed.

*ORIGINATOR: Name of the company who produced the coverage. Use contractor code from list found in appendix A (e.g. IFS, TMB, etc.).

• TRL Data – Text Attribute Table (TAT) – Subclass: ANNOTATION.TRAIL_NM

This attribute table will contain annotation for the trail names. The table structure of the TAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TEXTSIZE	4	4	N	-		-

* *These fields **must** be filled in.*

For trail name annotation, fill in the $TEXT, $SIZE and TEXTSIZE field according to the table below:

TYPE OF TEXT	$TEXT	$SIZE	*TEXTSIZE
All Trail Names	e.g. Telegraph Trail	50	50

- Trail names should follow the shape and direction of the trails.

STATION DATA STANDARDS (STN)

This coverage will need to contain **POINT** and **ANNOTATION** feature classes, with annotation subclasses **ANNOTATION.GPS** and **ANNOTATION.REF_TREE**.

• STN Data – Point Attribute Table (PAT)

This attribute table will contain coding for boundary station markers, road station reference points, reference tree markers and cruise plots. It will be sent in addition to any other GPS data (road, boundary, etc.) that may have been collected. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TIMBER_SALE	8	8	C	-		-
*CP	5	5	C	-		-
*BLOCK	15	15	C	-		-
*GPS_CODE	12	12	C	-		-
*COMMENT	25	25	C	-		-

* *These fields **must** be filled in.*

* **TIMBER_SALE**: Timber Sale number of the block (e.g. A73570, WLK12, etc.).
***CP:** Cutting permit of the block (e.g. A, B, etc.).
***BLOCK:** Block number (e.g. 001, 890, etc.).
***GPS_CODE:** Describes what kind of station point it is.

Acceptable Values:

- STAID = Boundary station or hub (defined as "H" in GPS contract).
- RDSTA = Road station reference point (defined as "RP" in GPS contract).
- REFTRE = Reference tree marker (defined as "R" in GPS contract).
- PLOT = Cruise plot.

***COMMENT:** Text describing the tag number or type of station, reference tree, stripline, etc.

• STN Data – Text Attribute Table (TAT) – Subclass: ANNOTATION.GPS

This attribute table will contain annotation for all GPS points other than reference trees, such as boundary or road stations, reference points and tie points. The table structure of the TAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TEXTSIZE	4	4	N	-		-

* *These fields **must** be filled in.*

For this annotation, fill in the $TEXT, $SIZE and TEXTSIZE field according to the table below:

TYPE OF TEXT	$TEXT	$SIZE	*TEXTSIZE
GPS station label	e.g. STN 12, POC, etc.	25	25

• STN Data – Text Attribute Table (TAT) – Subclass: ANNOTATION.REF_TREE

This attribute table will contain annotation for reference trees only. The table structure of the TAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?

*TEXTSIZE	4	4	N	-		-

* *These fields **must** be filled in.*

For the reference tree annotation, fill in the $TEXT, $SIZE and TEXTSIZE field according to the table below:

TYPE OF TEXT	$TEXT	$SIZE	*TEXTSIZE
Reference tree label	e.g. RT\2, RT\25, etc.	25	25

- For reference tree labels, the format is: RT\"Reference Tree Number".

STREAM DATA STANDARDS (STR)

This coverage will need to contain an **ARC** feature class.

• STR Data – Arc Attribute Table (AAT)

This attribute table will contain coding for any stream segments that have been GPS traversed. It can also include any streams from BCTS's detailed mapping streams or TRIM II, which have been identified in the field and classified. The table structure of the AAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*FCODE	10	11	B	-		-
*DATA_SOURCE	25	25	C	-		-
REACH	2	3	C	-		-
STRM_CLASS_CODE	3	3	C	-		-
INV_COMPANY	25	25	C	-		-
INV_DATE	8	10	D	-		-

* *These fields **must** be filled in.*

***FCODE:** This will be the Ministry of Sustainable Resource Management's fcode of the stream.

Acceptable Values:

- GA24850000 = Definite river/stream.
- GA24850140 = Indefinite river/stream.

***DATA_SOURCE:** Describes how the data was captured.

Acceptable values:

- GPS = GPS traversed.
- TRIMII = Taken from TRIM II stream linework but verified stream class in the field.
- DIGITIZED = Digitized from hardcopy map.
- ORTHO = Digitized from orthophoto.
- LASER = Laser traversed

REACH: This will contain the reach number (e.g. R1, R2, etc.).
STRM_CLASS_CODE: This will contain the stream class (e.g. S1, S3, etc.).
INV_COMPANY: This will be the company who performed the stream inventory if applicable.
INV_DATE: This will be the date that the stream inventory was completed if applicable. The format is mm/dd/yyyy (e.g. 04/18/2004).

* *Don't send TRIM II streams unless the stream class and location has been verified in the field.*

REACH BREAK DATA STANDARDS (RCH)

This coverage will need to contain a **POINT** feature class.

• RCH Data – Point Attribute Table (PAT)

This attribute table will contain coding for reach break points. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?

*ANGLE	4	5	B	-		-
*SYMBOL	4	4	C	-		-

* *These fields **must** be filled in.*

***ANGLE:** Angle of rotation of the reach break arrow. Use $ANGLE field to get angle value.
***SYMBOL:** Describes what kind of point it is.

Acceptable values:

- RB = Reach Break.
- SS = Inventory Sample Site.

RIPARIAN ANNOTATION DATA STANDARDS (RIP)

This coverage will need to contain an **ANNOTATION** feature class, with annotation subclasses **ANNOTATION.RIP_ANNO** and **ANNOTATION.INV_LABEL**.

• RIP Data – Text Attribute Table (TAT) – Subclass: ANNOTATION.RIP_ANNO

This attribute table will contain annotation for reach labels, wildlife tree patch (WTP) labels and riparian management zone (RMZ) labels. The table structure of the TAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TEXTSIZE	4	4	N	-		-

* *These fields **must** be filled in.*

For this annotation, fill in the $TEXT, $SIZE and TEXTSIZE field according to the table below:

TYPE OF TEXT	$TEXT	$SIZE	*TEXTSIZE
Reach label	e.g. R1\S2, R2\W5, etc.	0	20
WTP	e.g. WTP 1, WTP 2, etc.	0	30
RMZ	e.g. RMZ 1, RMZ 2, etc.	0	40

- For reach labels, the format is: "Reach Number"\"Stream Class".
- For reach labels, the label should be placed on the same side of the stream as the reach breaks and half way between the upper and lower reach breaks.

• RIP Data – Text Attribute Table (TAT) – Subclass: ANNOTATION.INV_LABEL

This attribute table will contain annotation for the inventory sample site labels. The table structure of the TAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TEXTSIZE	4	4	N	-		-

* *These fields **must** be filled in.*

For inventory label annotation, fill in the $TEXT, $SIZE and TEXTSIZE field according to the table below:

TYPE OF TEXT	$TEXT	$SIZE	*TEXTSIZE
Inventory Label	e.g. FishCo\2002-07-16, etc.	0	25

- For inventory labels, the format is: "Inventory Company"\"Inventory Date" (e.g. FishCo\2002-07-16).
- Place an arrow to point at the Sample Site point.

CULTURALLY MODIFIED TREE DATA STANDARDS (CMT)

This coverage will need to contain **POINT** and **ANNOTATION** feature classes, with annotation subclass **ANNOTATION.CMT**.

• CMT Data – Point Attribute Table (PAT)

This attribute table will contain coding for "Culturally Modified Tree" (CMT) points or "Archaeological Site" (ARCH) points. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*FEATURE	12	12	C	-		-
SITE_CODE	10	10	C	-		-

* *These fields **must** be filled in.*

***FEATURE:** Describes what kind of point it is.

Acceptable values:

- CMT = Culturally Modified Trees.
- ARCH = Archaeological Site.
- SITE_CODE: Describes the site number (e.g. Site #1).

- **CMT Data – Text Attribute Table (TAT) – Subclass: ANNOTATION.CMT**

This attribute table will contain annotation for CMT site or archaeological site labels. The table structure of the TAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TEXTSIZE	4	4	N	-		-

* *These fields **must** be filled in.*

For this annotation, fill in the $TEXT, $SIZE and TEXTSIZE field according to the table below:

TYPE OF TEXT	$TEXT	$SIZE	*TEXTSIZE
CMT or ARCH site	e.g. Site #1, Site #2, etc.	30	30

ARCHAEOLOGICAL SITE DATA STANDARDS (AST)

This coverage will need to contain **POLYGON** and **ANNOTATION** feature classes, with annotation subclass **ANNOTATION.CMT_HD**.

- **AST Data – Polygon Attribute Table (PAT)**

This attribute table will contain coding for "Culturally Modified Tree Group" polygons or "Archaeological Site" polygons. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*FEATURE	12	12	C	-		-
SITE_CODE	10	10	C	-		-

* *These fields **must** be filled in.*

***FEATURE:** Describes what kind of point it is.

Acceptable values:

- SITE_CODE: Describes the site number (e.g. Site #1).

- **AST Data – Text Attribute Table (TAT) – Subclass: ANNOTATION.CMT_HD**

This attribute table will contain annotation for CMT site or archaeological site labels. The table structure of the TAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TEXTSIZE	4	4	N	-		-

* *These fields **must** be filled in.*

For this annotation, fill in the $TEXT, $SIZE and TEXTSIZE field according to the table below:

TYPE OF TEXT	$TEXT	$SIZE	*TEXTSIZE
CMT or ARCH site	e.g. Site #1, Site #2, etc.	20	20

BRIDGE, CULVERT AND SKID BRIDGE DATA STANDARDS (XNG)

This coverage will need to contain a **POINT** feature class.

• XNG Data – Point Attribute Table (PAT)

This attribute table will contain coding for bridge, culvert and skid bridge points. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
***TIMBER_SALE**	**8**	**8**	**C**	-		-
***CP**	**5**	**5**	**C**	-		-
***BLOCK**	**15**	**15**	**C**	-		-
***FEATURE**	**8**	**8**	**C**	-		-
LENGTH	**10**	**10**	**C**	-		-
DIAMETER	**10**	**10**	**C**	-		-
ANGLE	**4**	**5**	**B**	-		-

** These fields **must** be filled in.*

*** TIMBER_SALE:** Timber Sale number of the block (e.g. A73570, WLK12, etc.).
***CP:** Cutting permit of the block (e.g. A, B, etc.).
***BLOCK:** Block number (e.g. 001, 890, etc.).
***FEATURE:** This describes what kind of structure it is.

Acceptable Values:

- BRIDGE
- CULVA = arch culvert
- CULVR = round culvert
- CULVAEM = embedded arch culvert
- CULVREM = embedded round culvert
- SKID BRIDGE

LENGTH: This would describe the length of the structure if applicable (e.g. 10m, etc.).
DIAMETER: This would describe the diameter of the structure if applicable (e.g. 900mm, etc.).
ANGLE: Angle of rotation of the point feature (if applicable). Use $ANGLE field to get angle value.

CRUISE DATA STANDARDS (CRU)

This coverage will need to contain **ARC**, **POINT** and **ANNOTATION** feature classes, with annotation subclasses **ANNOTATION.TTTEXT** and **ANNOTATION.PLOTS**.

• CRU Data – Arc Attribute Table (AAT)

This attribute table will contain coding for arc features such as striplines, baselines, drop offs, brush patches, rock features, slope arrows or timber type lines. The table structure of the AAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
***TIMBER_SALE**	**8**	**8**	**C**	-		-
***CP**	**5**	**5**	**C**	-		-
***BLOCK**	**15**	**15**	**C**	-		-
***PLTF_CODE**	**12**	**12**	**C**	-		-
YEAR	**4**	**5**	**B**	-		-

** These fields **must** be filled in.*

***TIMBER_SALE**: Timber Sale number of the block (e.g. A73570, WLK12, etc.).
***CP:** Cutting permit of the block (e.g. A, B, etc.).
***BLOCK:** Block number (e.g. 001, 890, etc.).
***PLTF_CODE:** This is the information gathered from cruise fieldwork. The arcs should be coded with one of these values.

Acceptable Values:

- BLINE = Baseline.
- ROCK = Rock Features.
- SLINE = Strip Line.
- DLINE = Drop Off Line.
- SARROW = Slope Arrow.
- TLINE = Timber Type Line.
- BRUSH = NCC, NcBr.

YEAR: Year of survey (e.g. 2002).

- **CRU Data – Point Attribute Table (PAT)**

This attribute table will contain coding for point features such as plots, POC's, POT's, seedtrees and tie points. The table structure of the PAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TIMBER_SALE	8	8	C	-		-
*CP	5	5	C	-		-
*BLOCK	15	15	C	-		-
*PLTF_CODE	12	12	C	-		-
*PLT_NBR	4	5	C	-		-
YEAR	4	5	B	-		-

* *These fields **must** be filled in.*

***TIMBER_SALE**: Timber Sale number of the block (e.g. A73570, WLK12, etc.).
***CP:** Cutting permit of the block (e.g. A, B, etc.).
***BLOCK:** Block number (e.g. 001, 890, etc.).
***PLTF_CODE:** These are label points for cruising.

Acceptable Values:

- PLOTM = Plot location that is a **measured** plot.
- PLOTC = Plot location that is a **count** plot.
- POC = POC location.
- POT = POT location.
- SEEDTREE = Seed Tree location.
- TIE = Tie Point location.

***PLT_NBR:** This is the plot number.
YEAR: Year of survey.

- **CRU Data – Text Attribute Table (TAT) – Subclass: ANNOTATION.TTTEXT**

This attribute table will contain annotation describing timber types (e.g. NCC, NcBr, NP). The table structure of the TAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TEXTSIZE	4	4	N	-		-

* *These fields **must** be filled in.*

For this annotation, fill in the $TEXT, $SIZE and TEXTSIZE field according to the table below:

TYPE OF TEXT	$TEXT	$SIZE	*TEXTSIZE
Timber Types	e.g. 1, 2, 3, etc.	30	30

- When entering numbers use 1, 2, 3, not I,II, III.

- **CRU Data – Text Attribute Table (TAT) – Subclass: ANNOTATION.PLOTS**

This attribute table will contain annotation for cruise plots, baselines, photo-ties, striplines and slope. The table structure of the TAT is:

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC	ALTERNATE NAME	INDEXED?
*TEXTSIZE	4	4	N	-		-

** These fields **must** be filled in.*

For this annotation, fill in the $TEXT, $SIZE and TEXTSIZE field according to the table below:

TYPE OF TEXT	$TEXT	$SIZE	*TEXTSIZE
Cruise Plots	e.g. 2, 45, 15a, etc.	20	20
Baseline Text	e.g. POC BL 1, etc.	25	25
Stripline Text	e.g. SL 1, SL 12, etc.	25	25
Slope Text	e.g. 2, 14, 23, etc.	15	15
Photo Tie	e.g. P.T. 1	25	25

APPENDICES

APPENDIX A – CONTRACTOR CODES

CODE	COMPANY NAME
IFS	Industrial Forestry Service Ltd.
TMB	Timberline Forest Inventory Consultants Ltd.

APPENDIX B – DATA CODES

CODE	DESCRIPTION OF DATA	FEATURE CLASSES	ANNO SUBCLASS
GPS	GPS block boundary and reserve data only.	Arc	
SP	ECO, SU, SMZ and TTY data with GPS boundary. This data can be sent together as one "SP" file, or as a separate "SU", "ECO", "SMZ" or "TTY" file.	Polygon	
SU	Standard units data only (with GPS boundary).	Polygon	
ECO	Ecological units data only (with or without GPS boundary).	Polygon	
BMZ	Biodiversity management zone data only.	Polygon	
SMZ	Special management zone data only.	Polygon	
TTY	Timber type data only.	Polygon	
RDS	GPS road data.	Arc	
TRL	Skid trail, bladed trail and history trail data.	Arc	Anno.trail_nm
STN	GPS station, reference tree and tie point data.	Point, annotation	Anno.gps, Anno.ref_tree
STR	GPS stream data and surveyed stream data.	Arc	
RCH	Reach break and inventory sample site data.	Point	
RIP	Riparian annotation data, WTP annotation data and RMZ annotation data.	Annotation	Anno.rip_anno, Anno.inv_label
CMT	Culturally modified trees and archaeological site point data.	Point, annotation	Anno.cmt
AST	Archaeological site polygons and culturally modified tree group polygon data.	Polygon, annotation	Anno.cmt_hd
XNG	Bridge, culvert and skid bridge data.	Point	
CRU	Cruise data.	Point, arc, annotation	Anno.tttext, Anno.plots
ARC	Miscellaneous arc data.	Arc	Anno.misc
PLY	Miscellaneous polygon data.	Polygon	Anno.misc
PNT	Miscellaneous point data.	Point	Anno.misc

APPENDIX C – GPS FILE AND TRAVERSE STANDARDS FOR EXHIBIT 'A'S

- GPS must meet current Ministry specifications
- digital files may submitted as in **File Method of Delivery**
- GPS for cutting permits should be submitted by CP.
- the label follows the **File Naming Conventions**

DIGITAL DATA SPECIFICATIONS

All digital data that gets sent to BCTS must adhere to the following specifications:

- traverses for block must only show the harvestable area which is also the block boundary, and not the digitized adjoining reserve areas
- all reserve areas 1 ha. or greater in size that occur within the harvestable boundary must be traversed
- projection: BC Albers Equal Area Conic
- datum: NAD 83
- identify the mapsheet numbers the application area is located on.

All block data must be vector cleaned polygons.